AMSAT News Service Weekly Bulletins
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SB SAT @ AMSAT $ANS-107.01
STS-56/SAREX MISSIONS ENDS

HR AMSAT NEWS SERVICE BULLETIN 107.01 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-107.01

Shuttle Discovery With Its SAREX Payload Finishes A Successful Mission

With a Mission Elapsed Time (MET) of 9 days, 6 hours, and 21 minutes, the STS-56 SAREX mission concluded its successful mission with a landing at the Kennedy Space Center at 11:37:19 UTC. One of the major goals of the SAREX part of this mission was to hold classroom discussions with school children from all over the world. If fact, more than 18 schools were involved in these question and answer sessions with the shuttle astronauts. The school children were from countries that included the U.S., Portugal, Great Britian, Australia, and South Africa. Another SAREX first was the contact made between Mike Foale (KB5UAC) and Alexander Pollischuk (R2MIR) on the Mir space station. This historical 2M contact occurred on 11-APR-93 at 00:35 UTC when the orbits of Mir and the Shuttle Discovery came within 135 KM of each other. Unfortunately, during this mission, there were very few general 2M FM voice QSO contacts made on this particular SAREX mission. Because this was a science mission that involved a lot of biomedical and space science experiments, the astronauts were very busy with their "labor-intensive" activities. This left very little time for general voice contacts. However, for brief times, there were a few very vigorous QSOs especially when STS-56 passed over southern Texas. For those who were lucky enough to make a contact with one of the astronauts aboard STS-56 either by packet or by voice and would like to receive a QSL card, please send your QSL card to:

STS-56 QSL
c/o Vienna Wireless Society
P.O. Box 418
Vienna, VA 22183

Please include a self addressed stamped envelope. Non-US stations should include the appropriate number of IRCs with your QSL. Also, for those who were only able to copy the SAREX transmissions from space, you are invited to send in your QSL card to receive a card for SWL.

With the STS-55 SAREX mission close at hand, more opportunities to make a contact with a shuttle astronaut will be possible. For those who would like to see what the ground track of STS-55 will be, included below are the initial orbital elements for that mission:

STS-55 Elements Assuming A 24-APR-93 Launch

STS-55
1 00055U 93114.67000478 .00120200 00000-0 36300-3 0 69
2 00055 28.4697 267.1108 0003812 314.2100 45.8202 15.90487610 22

Satellite: STS-55
Catalog number: 00055
Epoch time: 93114.67000478 = (24-APR-93 16:04:48.41 UTC)
Element set: JSC-006

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Inclination:       28.4697 deg
RA of node:       267.1108 deg          Space Shuttle Flight STS-55
Eccentricity:     .0003812             Prelaunch Keplerian Elements
Arg of perigee:   314.2100 deg         Launch:  24-APR-93  14:52 UTC
Mean anomaly:      45.8202 deg
Mean motion:   15.90487610 rev/day              G.L. Carman (WA5NOM)
Decay rate:     1.2020e-03 rev/day^2     NASA  Johnson Space Center
Epoch rev:              2
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As more information about STS-55 is made available, the AMSAT News Service (ANS) will make it immediately available to radio amateurs through the ANS bulletins.

[The ANS would like to thank Frank Bauer (KA3HDO) of the SAREX Working Group for this bulletin item.]

/EX
SB SAT @ AMSAT $ANS-107.02
ARSENE READY TO FLY 30-APR-93

HR AMSAT NEWS SERVICE BULLETIN 107.02 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
TO ALL RADIO AMATEURS BT
BID: $ANS-107.02

F6BVP Reports The Next OSCAR Is Awaiting Its Launch 30-APR-1993

The ARSENE satellite is now in Kourou, French Guiana space center of the European Space Agency. The team from the Space Radio Amateur Club, including Gerard Auvray (F6FAO) and Didier Delrieu (F6GXY), have joined 22 other engineers in performing the numerous verifications in the ARSENE launch vehcileintegration phase. Among the engineers are members of the European Propulsion Society, who constructed the MARS apogee motor; the team from the CNES (National Center for Space Studies) with Jean Pierre Redon, Chief of Project ARSENE; the team from Aerospatiale who contructed the vehicle; and the Italian teams from FIARE and CISE who fabricated the solar panels and cells.

The carbon-fiber rocket motor installed in ARSENE to help boost it its proper orbit on orbit #4 known as MARS, was placed under pressure after the x-ray photos showed no defects. The starter system for this apogee kick motor called MAGE, was installed. On 07-APR-93 the thermal covering was installed on the motor.

The battery went through several charge-discharge cycles so as to maintain optimal performance. The 6 solar panels have been tested and deliver nominal voltage. The umbilical cord between the satellite and the Ariane rocket has been checked. Thursday 08-APR-93 ARSENE's third-stage adapter was being spin-balanced.

The first tests of the radio amateur equipment have started.

The ASTRA-1C satellite and the Ariane rocket are in a nominal state for the launch set for 30-April-93. The launch window will open on Friday at 00:52 UTC and close at 01:50 UTC.

Alain Duchauchoy (F6BFH) has accepted the job of Video Project Chief for the launching of satellite ARSENE into orbit. Alain will coordinate the three sequences of 90 minutes of retransmissions on TV satellite ECS2-F1, transponder 39 at 11.658 GHz (KU band). These retransmissions are courtesy of France Telecom and will take place between 20:30 and 22:00 UTC on three different evenings beginning Friday, 30-APR-93. In addition, the ENSAE (the French National College of Aeronautics and Space) at Toulouse will operate an HF station with the special call of TM6SUP during the launch

campaign and will report the status of the French radio amateur satellite ARSENE. More details are forthcoming in future reports.

For those who have yet to see a table of the transponder frequencies for ARSENE, the following table is presented for your information:

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UPLINK FREQUENCY #1:          435.050 MHz
UPLINK FREQUENCY #2:          435.100 MHz <-----
UPLINK FREQUENCY #3:          435.150 MHz      |
                                          Mode S Combination (CW/SSB)
DOWNLINK FREQUENCY #1:        145.975 MHz      |
DOWNLINK FREQUENCY #2:       2446.500 MHz <----
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ARSENE WILL BE A PACKET RADIO "RELAY" SATELLITE. It will not have a bulletin board system (BBS) capability. All three uplink link frequencies will only accept AX.25 1200 baud FSK packet. However, when ARSENE is in Mode S, one can transmit on 435.100 MHz and listen to their downlink on 2446.500 MHz. During Mode S, one can use use this "analog" transponder for CW or SSB. The downlink passband on Mode S is 16 KHz wide.

[The AMSAT News Service would like to thank Bernard (F6BVP) with special help with the French-to-English translation done by N5KNX.]

/EX
SB SAT @ AMSAT $ANS-107.03
AMSAT-UK SYMPOSIUM CALL FOR PAPERS

HR AMSAT NEWS SERVICE BULLETIN 107.03 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
TO ALL RADIO AMATEURS BT
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AMSAT-UK Call For Papers To Be Presented At Space Symposium

AMSAT-UK will host its 8th Annual Colloquium from 29-JUL-93 through 01-AUG-93. Authors wishing to present papers should submit an abstract no later than 01-MAY-93 to be considered for inclusion in this year's proceedings.

Submissions should be sent to:

Doug Loughmiller (G0SYX, formerly KO5I)
Colloquium '93 Programme Chairman
Centre for Satellite Engineering Research
University of Surrey
Guildford, Surrey GU2 5XH England

Papers accepted for this year's proceedings will be required in final form (camera ready copy or on disk) by the Colloquium Programme Chairman no later than 15-JUN-93.

Authors will be notified of the acceptance of their papers by 15-MAY-93.

In other news from the University of Surrey (UoSAT), Doug Loughmiller (formerly KO5I and now G0SYX) wanted inform radio amateurs of UoSAT's participation in STS-56 SAREX mission with this brief note. He reports:

"With technical and operational support from a number of key UoSAT personnel including G1NBR, G8NOB, G7DQE and G0SYX, students from the Royal Grammar School of Guildford, England participated in a successful SAREX contact with Astronauts aboard the Space Shuttle Discovery during the STS-56 mission. The successful contact took place during orbit 18 of the mission. While in radio contact with Commander Ken Cameron (KB5AWP) students first uplinked a slow scan TV picture of themselves up to the

orbiter and then asked a series of questions of the crew before losing radio contact with the vehicle a few minutes later. Approximately 20 students participated in the event while enthusiastic parents looked on. Frank Bell (G7CND) Deputy Head of Science at the Royal Grammar School organized the student's participation in the SAREX contact. He expressed his delight with the success of the contact by stating 'It was an image that I'm sure will remain with the boys for the rest of their lives.'"

/EX
SB SAT @ AMSAT $ANS-107.04
AMSAT OPS NET SCHEDULE

HR AMSAT NEWS SERVICE BULLETIN 107.04 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
TO ALL RADIO AMATEURS BT
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AMSAT Operations Net Schedule

AMSAT Operations Nets are planned for the following times. Mode B Nets are conducted on AO-13 on a downlink frequency of 145.950 MHz and Mode J/L on a downlink of 435.970 MHz.

Date	UTC	Mode	Phs	NCS	Alt NCS
19-Apr-93	0130	B	95	WB6LLO	WA5ZIB
24-Apr-93	1730	B	65	WA5ZIB	WJ9F
02-May-93	0000	J	135	W9ODI	N7NQM

Any stations with information on current events would be most welcome. Also, those interested in discussing technical issues or who have questions about any particular aspect of OSCAR statellite operations are encouraged to join the OPS Nets. In the unlikely event that either the Net Control Station (NCS) or the alternate do not call on frequency, any participant is invited to act as the NCS.

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Slow Scan Television on AO-13

SSTV sessions will be held on Saturdays and Sundays UTC:

Mode J	Downlink 435.980 MHz
Mode B after J	Downlink 145.960 MHz

OPS NETS will take priority, look for SSTV activity immediately after the net. SSTVer's are invited to join the Net to make schedules at other times if desired.

/EX
SB SAT @ AMSAT $ANS-107.05
WEEKLY OSCAR STATUS REPORTS

HR AMSAT NEWS SERVICE BULLETIN 107.05 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
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Weekly OSCAR Status Reports: 17-APR-93

AO-13: AMSAT-OSCAR-13 continues with the following transponder schedule. G3RUH reports that with the longer Mode-S periods, more new stations are showing up on Mode-S.

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L QST *** AO-13 TRANSPONDER SCHEDULE *** 1993 Mar 22 - May 10
Mode-B  : MA   0 to MA  90 !
Mode-BS : MA  90 to MA 120 !<- Mode-S Transponder;Mode-B Transponder is ON
Mode-S  : MA 120 to MA 130 !<- Mode-S Transponder;Mode-B Transponder is OFF
Mode-LS : MA 130 to MA 135 !<- Mode-S Beacon + Mode-L Transponder
Mode-JL : MA 135 to MA 150 !        Blon/Blat 180/0
Mode-B  : MA 150 to MA 256 !  Move S/C attitude to 210/0 on 10-May-93
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Please don't uplink to the Mode-B transponder during MA 120-130. Your uplink transmissions will interfere with Mode-S users. Inorder to further encourage Mode-S enthusiasts and the use of the AO-13's Mode-S transponder, Mode-S is now ON for an additional 30 MA units, i.e. MA 90 to MA 135. During MA 90-120 you will have to endure the coupling from Mode-B users operating at 145.880-145.920 MHz. Either work between them, or use their signals as test signals. MA 120-130 is Mode-S transponder exclusive (plus the Mode-B beacon). MA 130-135 is Mode-S beacon (plus the Mode-L transponder). [G3RUH/VK5AGR/DB2OS]

AO-16: Operating normally. [WH6I]

LO-19: Operating normally. [WH6I]

UO-22: Operating normally. Recent image file is up. [WH6I]

KO-23: Operating normally. There are currently 4 images. [WH6I]

RS-10: RS-10 is very active with stations from the West Coast working stations in eastern Canada. Look for the RS-10 Mode A beacon on a downlink frequency of 29.403 MHz. [VE4AMU]

RS-12: VE4AMU reports that many stations are generating a lot of excitement with this bird with its uplink on 15M and downlink on 10M. [VE4AMU]

MIR: VE4AMU reports that he hear the cosmonauts making a class room contact with school children last week. Look for voice and/or packet from the MIR space station on a downlink frequency of 145.550 MHz. [VE4AMU]

RS-15: Although there is no offical launch date for RS-15, it is expected to be launch sometime late this year. [Alexander Zaitzev (RW3DZ)]

The AMSAT NEWS Service (ANS) is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this bulletin, please send your observations to WD0HHU at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, WD0HHU @ W0LJF.#NECO.CO.USA.NOAM. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

/EX
SB SAT @ AMSAT $ANS-107.06
NEW AMSAT-NA LANDLINE BBS

HR AMSAT NEWS SERVICE BULLETIN 107.06 FROM AMSAT HQ
SILVER SPRING, MD APRIL 17, 1993
TO ALL RADIO AMATEURS BT
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A New AMSAT-NA Landline BBS Dedicated To OSCAR Users Is Now In Service

To overcome problems radio amateurs have noted in receiving timely news, AMSAT this week appointed a new dial-in BBS which will carry all ANS bulletins, Keplerian elements, Space News and other news items associated with the amateur

space program.

Sysop for the new BBS is Mel Roman (KA2UPD). Mel set up his BBS about 2 months ago, with a view to serving AMSAT, and has it working very well. It is presently on-line from noon-to-midnight weekdays EDT and from 9:00 AM EDT to midnight weekends. However, Mel has plans to have his BBS become operational 24 hours a day very soon.

Phone number for the new BBS is (201) 261-2780 and it accepts the usual 8-N-1 up to 2400 Baud.

Other BBSs which presently carry AMSAT information are expected to continue to do so.

[The AMSAT News Service (ANS) would like to thank Andy McAlister (WA5ZIB), VP of User Services for this bulletin item.]

/EX